

Journal of the Royal Society of Arts

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THE SOCIETY'S CHRISTMAS CARD

This year's Christmas card is now in an advanced stage of production, and, it is hoped, will be ready for despatch shortly.

An order form for the cards is included at the back of this issue of the *Journal*.

INDUSTRIAL ART BURSARIES COMPETITION

As announced in the last issue of the *Journal*, the winning and commended designs submitted in the 1956 Industrial Art Bursaries Competition are on show at the College of Art, Belfast, until 18th September, 1957.

FACILITIES FOR FELLOWS

Fellows are reminded that the accommodation which is available for their use at the Society's House includes the Library, which has a loan collection as well as a reference section, and the Parlour, which may be used as a reading and writing room, and as a meeting place for themselves and their friends when in London.

Light refreshments, such as morning coffee, sandwiches and afternoon tea can be ordered between 10 a.m. and 5.30 p.m. on weekdays, and until 12 noon on Saturdays.

SPHERICAL PERSPECTIVE

A paper by

BRIGADIER J. L. P. MACNAIR, Assoc.I.Mech.E.,

read to the Society at 2.30 p.m. on Wednesday,

3rd April, 1957, with John White, Ph.D., of the

Courtauld Institute of Art, in the Chair

THE CHAIRMAN: Brigadier Macnair has had an extremely distinguished career as a military scientist. He was for a number of years the Chief Superintendent of the Research Department at Woolwich, and was Commandant of the Military College of Science. Since retiring from the Army he has, although he has not told me much about it, begun a new and equally distinguished career as an engineer in civilian life. He was, in fact, the Chief Executive Engineer for the Festival of Britain.

It is also a particular pleasure to introduce him, because too often people who are interested in the arts forget that it is essential to know something about the physical basis of vision, and about the methods of interpreting that vision artistically. Also I think it is a very good thing for all of us to have some of our preconceptions shaken now and again. I suppose one of the most deep-rooted of all preconceptions is that there is only one sort of perspective; that of course is quite untrue, as Brigadier Macnair will be showing.

The following paper was then read:

THE PAPER

The art of perspective first began to be studied by what might be called scientific methods about the fifteenth century, with the coming of the Renaissance. Interest in it must have been stimulated by the first printed pictures—woodcuts—which were produced in the fourteenth century, and there were 'primitive' painters who were quite capable of making their background recede into the distance. Their results were probably empirical, but none the less sound for that. They painted just what they saw, in the same way as palæolithic man gave life to his cave drawings of animals. They were not consciously stylized. But with the flowering of the Renaissance came the new spirit of enquiry. Men sought for the truth that lay behind beauty, and they were in no sense specialists. The Italian artists were also architects, scientists, mathematicians, energetic spirits.

Leonardo da Vinci, in his *Treatise on Painting*, says

the young artist should first of all learn perspective, i.e. to depict in a flat surface objects which are in relief or distant from one another, for this is the simple art of painting. Objects appear smaller at a distance than near to us, so by drawing them thus we give depth to our canvas. The outline of a ball is a mere flat circle, but with proper shading we make it appear round, and this is the perspective of light and shade.

The next thing to be considered is the effect of the atmosphere and light. If two figures are in the same coloured dress and are standing one behind the other, then they should be of slightly different tone so as to separate them.

And in like manner, according to the distance of the mountains in a landscape, and the greater or less density of the air so do we depict space between them, not only making them smaller in outline, but less distinct.

Leonardo, of course, has more to say about perspective in his note books. I have quoted him here at some length in order to bring out the point that perspective is to be considered not merely from its purely linear geometrical properties. It is, in its broadest aspect, an illusion, employing any subtlety of artifice that may be available to obtain the effect desired—an effect which may extend from the cosiness or neatness of an ingenious interior—designed for example, as an advertisement for somebody's wall paper—to the utmost sublimity of architectural form. I want to stress this fact—the fact of an illusion—because in the gradual development of linear perspective that has taken place since the Renaissance, we have, I think, tended to lose sight of this fundamental concept, in ascertaining and perfecting the geometrical rules whereby we can obtain, what we are pleased to believe, is an exact representation in a two-dimensional plane, of the image of a three-dimensional object, or group of objects. That there are some rather queer effects resulting from a rigid application of these rules is probably well known to those of you—architects and others—who have mastered the subject. I will refer to them later.

I want to use the term 'illusion' in its highest sense. Banish from your minds, please, the conjurer at a children's party persuading us that black is really red, or that an empty hat is full of rabbits. The kind of illusion that we speak of here is a veritable magic, of the kind by which a poet assembles words which in another context would be humdrum, to bring to our minds some concept not quite of this world; or a musician by subtle harmonies weaves a web of beauty which in its ultimate cause defies analysis. The master painter requires not only technique, but spirit. How can such a spirit enter into the mathematical treatment of perspective? In my opinion it was there a long time ago and has been partly lost.

When first man began to make designs, to enrich his way of life, the refinement of perspective did not occur to him. Paintings and drawings unfortunately do not last very well—considered in terms of thousands of years—but those that have survived are without conscious depth. The palæolithic cave drawings are inspired *coups d'oeil* with no background. Egyptian reliefs are highly stylized, epitomizing an already advanced culture; they mostly tell a story; you move from one end of the picture to the other; they are not intended to be studied from one viewpoint only. The Chinese seem never to have felt the need for perspective as understood by Westerners. When they drew a wall or building, they gave what we should term an isometric projection. The kind of illusion they were seeking was something different; no less magical, but concerned perhaps more with time than with space. A fat Chinese merchant can derive simple pleasure from crossing a fragile bridge, and taking tea in a diminutive pavilion on an artificial island in a small lake, the lake itself being surrounded, at no very great distance, by the far from ornamental evidences of industrial life. He can imagine himself floating in a paper boat down a river strewn with

flower petals. Fairy stories play a large part in the intellectual pleasures of the Chinese, in their poetry, and in their art. Fairy stories have no need of perspective.

Architectural beauty is more lasting than pictorial, and here it is fascinating to trace a growth of certain principles of vision which are, I believe, relevant to our subject. In Egypt columns, and even walls, were mostly straight, tapering upwards, with the narrowest part at the top. Probably this style originated in a desire for strength, but it became merged in the artistic tradition of the Country. They realized the beauty of such treatment when reflected, for instance, in the calm waters of the Nile. They built for permanence, but their gods were earthly.

At Knossos, in Crete, the tendency with columns was rather the other way. They tended to taper downwards with the smaller cross-section at the bottom. They were made largely of wood (cypress), and the tree trunks were turned upside down. A theory has been advanced that in this position the material was better protected from the weather, but this I find difficult to accept. It was probably thought they looked better when stood up on their smaller end. The effect is certainly satisfactory, but again earthbound—*dictated by the characteristics of the available material*, as some of our modern architecture is said to be. The staircase at Knossos certainly has a suggestion of the Royal Festival Hall. Apart from the columns their architecture was generally rectangular in character.

It is with the coming of the Greeks that we find a new spirit entering into the art of the builder. It would be interesting, but out of place here, to trace the gradual evolution of that perfection which is to be found in the finest Greek temples—possibly the highest form of architecture the world has ever seen. How the ancient nomad's circular hut was merged into the semi-circular apse, which in turn became the treasury in the most remote or protected spot behind the altar or statue of the God, and into which grew the *cella*, the peristyle, the culmination of the builder's worship.

The Parthenon (Chamber of the Virgin), the supreme example of Greek, if not of all, architecture, stands as the culmination of all the efforts of the past millenium and beyond. A gradual growth it had been, fed by the energy of northern invaders, continually refreshed by the ancient civilizations that they found in the Mediterranean area. It was officially the temple of Athena Polias, and was designed by Ictinus and Callicrates in partnership. The optical refinements embodied in it are very surprising. I will mention two of them now, and refer to them again later. I hope architects and others who have studied the subject will forgive me for going over ground with which they are familiar.

The first is *entasis*, the diminution or gradual decrease of its thickness of a column towards its summit. A. H. Winterburn (*Architecture*; The Bennett College) says this diminution usually commences at about one-third of its height from the top member of the mounted base. 'The exact amount of this diminution, however, is generally a matter of individual taste in design.' There is, however, no very firm doctrine to give the designer in shaping the curved outline of the pillar.

Penrose suggests that the curve is a hyperbola, and in view of the Greek

mathematicians' interest in conic sections this view has something to commend it, but the precise formula needs definition. I will refer to this again later.

Entasis of the columns was not quite new at the time of the Parthenon, but here achieves a perfection that rather shames some of our modern efforts. Dinsmoor says it was introduced to correct an optical illusion. If the shafts were tapered upwards in absolutely straight lines, the silhouette of the column would appear concave.

The instinct of rightness evinced by *entasis* was a gradual growth. For example, in the well-known temple of Apollo at Corinth, erected soon after the middle of the sixth century B.C., the shafts, which are monoliths 20 feet 11 inches high, are absolutely without *entasis*, and this is the more surprising as this temple shows the second advance to which I wish to refer, which was the appearance for the first time of the optical refinement of the *upward curvature in the stylobate*, on both front and flank. In the Parthenon the curvature occurs also in the steps leading up to the building, and in the base.

The earliest mention of this curious fact is by Vitruvius in his chapter *De Substructionibus*, etc., Lit. III.3. This ancient Roman writer was acquainted with the work of Ictinus, and indeed infers that the Greek committed himself to writing on the subject but his book has never been found. If it was, it would be one of the most exciting discoveries of our time.

The deviation from apparently straight lines was rediscovered in 1837 by Mr. John Pennethorne, an English architect. The amount of the curvature is so exquisitely managed that it is not perceptible to a spectator standing opposite the front. It can be seen by 'boning'—looking along the steps or entablature. It varies in different buildings:

1. The sub-basement of the temple of Jupiter Olympus at Athens has the least curvature in proportion to its length.
2. The earlier Parthenon, and the temple of Theseus, have nearly the same amount.
3. The greatest is to be found in the stylobate of the Parthenon, and in the Propylæa.

Penrose gives actual measurements.

The columns were normally of equal height, so that the curvature determined at the bottom was transmitted to the entablature; but in the Propylæa the stylobate was level, and the central columns were made higher than those at the corners in order to obtain an upward curvature of $\frac{3}{4}$ inch in the architrave soffit. The sloping Tympanum top and the raking cornice were likewise constructed in the form of oblique curves.

The Greeks seem to have held that the greater the size of the building, the greater should be the curvature. In very small structures there does not seem to have been any departure from ordinary rectilinear construction. In the temple of Nike Apteros, although of the very best period of Greek art, the columns have no *entasis* whatever.

The reasons for the curves have been much debated. Ferguson thought they were merely for drainage, but the advantages from this aspect would have been

very inadequate, and for certain structural reasons might even have been disadvantageous. Vitruvius ascribes it to 'alveolation' *re alveolatus oculo videatur*. It is evident that the artifice of the curvature was not intended to be too visible. It was a very subtle refinement.

Dinsmoor says it was intended partly to impart a feeling of life to the whole, and perhaps even more to prevent any effect of sagging that might otherwise have resulted from the long row of vertical columns bearing down upon the horizontal line of the platform, as mentioned by Vitruvius; and he also says that 'its *origin* may be traced to the utilitarian function of shedding rain'. I think both these suppositions are open to doubt. It is true that in the Croesus temple at Ephesus, the pavement slopes upwards towards the *cella*, giving somewhat the effect of a deck roof: but when these ancient devices were studied and used by Ictinus, it seems that he had something else in mind. The curvature is so slight that it must have been intentionally optical, and yet hidden from the casual observer.

The radius of curvature in the flanks of the Parthenon is about $3\frac{1}{2}$ miles. In the older Parthenon (whose foundations can be traced under the present building) it was even more delicate, with a rise of only $2\frac{3}{8}$ inches and a radius of about $7\frac{1}{2}$ miles. The actual shape of the curve is doubtful. As we have already seen, Penrose thought all these curves, including *entasis*, were hyperbolas. Dinsmoor guesses a parabola, and indicates how, for the horizontal lines, he thinks they were laid out; and his theory certainly shows a nice simplicity from the point of view of practical building. I hope to show that there is another explanation with a definite formula, which both fits the Greek curves, and gives a more rational explanation for these refinements in design.

In parenthesis it may be of interest to note that the steps leading to the west front of St. Paul's Cathedral have been made with a curvature which clearly imitates Greek practice. The Reverend W. M. Atkins, Librarian of the Cathedral, informs me that these steps were designed, not by Wren, but by Penrose, who was at one time Surveyor, and who has obviously made use of measurements taken by him in Athens, without presumably appreciating their perspective significance.

Greek art in decline was absorbed into the Roman culture. The Romans were *par excellence* civil engineers, and no further advances other than size were made. It is, indeed doubtful if they understood the beauty that stood before them. The secrets of Ictinus and his school were locked up in Constantinople and were not released, and then only in dribblets, until the disaster of the Turkish conquests, which were the mainspring of the Renaissance.

By this time pictorial art had reached a stage which was capable of being transmitted to subsequent ages, including our own. Primitive paintings of the fourteenth century have already been mentioned. It is true that Vitruvius has been quoted as suggesting that Agatharius used perspective in designing scenery for the Greek poet Aeschylus (524-456 B.C.) but there is probably more read into this account than is justified—surprising perhaps, since perspective is, of course, based on the geometry of Euclid. However, 1,700 years were to elapse

before the Renaissance brought any positive evidence that the subject was really examined on paper.

Paolo de Dona, called Ucello, a Florentine (1397-1475) is credited with being the first to establish a system of perspective. His picture, *Rout of San Romano*, part of which is in the National Gallery, gives an illusion of depth which owes nothing to light and shade, for the men and horses have no shadows.

The earliest published works on the theory dealt with the simple problems of horizontal squares having a side parallel to the picture plane. Three Renaissance texts deal with this:

Leone Battista Alberti, of Florence: *De Re Aedificatione* (1435).

Jean Pelerin, or Viator, of Toul: *De Artificiali Perspectiva* (1505).

Albrecht Dürer of Nuremberg: *Unterweysung der Mersung* (1525).

Viator did more than the others, and made use of vanishing points for oblique or angular perspective—a remarkable and largely unappreciated advance.

Then there was *The Practice of Perspective* by Jean Debreuil, a Jesuit of Paris (1672), a remarkable work which was used by Sir Joshua Reynolds, and which repays study even to-day, and a book by Guidus Ubaldus, who first introduced fore-shortening.

There are in addition a series of writers, including Vignola, who altered the plans of St. Peter's, left by Michelangelo, and our own Joshua Kirby, for whose *Method of Perspective Made Easy*(?) Hogarth drew a well-known frontispiece.

But nearly all these authors treat of parallel perspective; they scarcely touch on angular or oblique perspective. There has in fact been little real advance in the subject from the days of Viator down almost to modern times. But a gradual groping after perfection can be noted. It is perhaps of interest that J. W. M. Turner was Professor of Perspective at the R.A. in 1807, and is said to have taken great pains with the diagrams he prepared to illustrate his lectures, but it is said again that they seemed to his students to be full of confusion and obscurity. G. A. Storey, A.R.A., teacher of perspective at the R.A. in 1910, in reporting this fact, does not think that any record of Turner's diagrams remains, which is a pity. Storey himself wrote a book on the subject which to my mind is none too clear itself.

The best modern work that I have been able to find is by Dr. W. Abbott, a mechanical engineer, whose *Perspective* was published in 1950; and to him I am mainly indebted for the present position and several of the diagrams now reproduced. It is clear to me that we are due for another advance, however modest, in this fascinating subject.

So that we may understand just where we are in the argument which is to come, let me first indicate the fundamental construction which underlies all perspective problems (Figure 1).

We need both a plan and an elevation of the figure to be drawn. (I am assuming of course, that we are approaching the problem from the point of view of the architect, or of someone who wishes to portray an object accurately and to scale, that has not necessarily yet been constructed. The problem for an artist who merely wants to depict an object which already exists, is simpler. He can

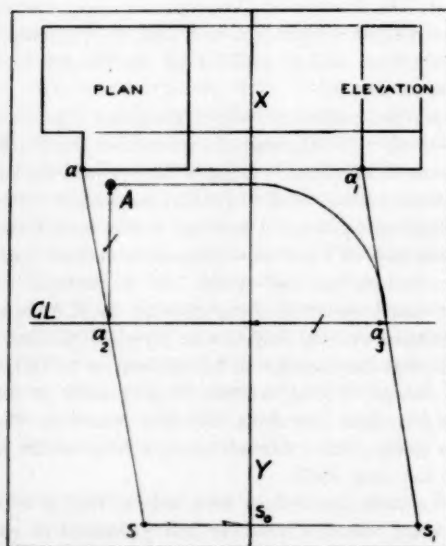
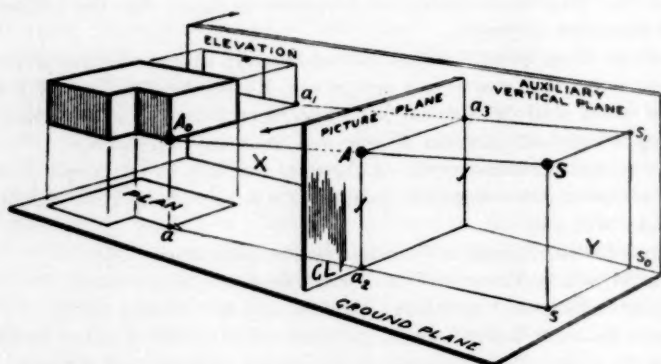


FIGURE 1

make use of certain constructions and simplifications which arise from the use of the fundamental one, and usually only involve the selection of suitable vanishing points.)

We wish to find the position A on our perspective drawing of the point a on the plan and a_1 on the elevation. The basis of the theory is that between our object and the observer at S, a transparent screen is erected on GL (ground line), and we want to draw on this screen the outline of the object as seen through it. For simplicity we fold the screen down so that it lies on top of the plan.

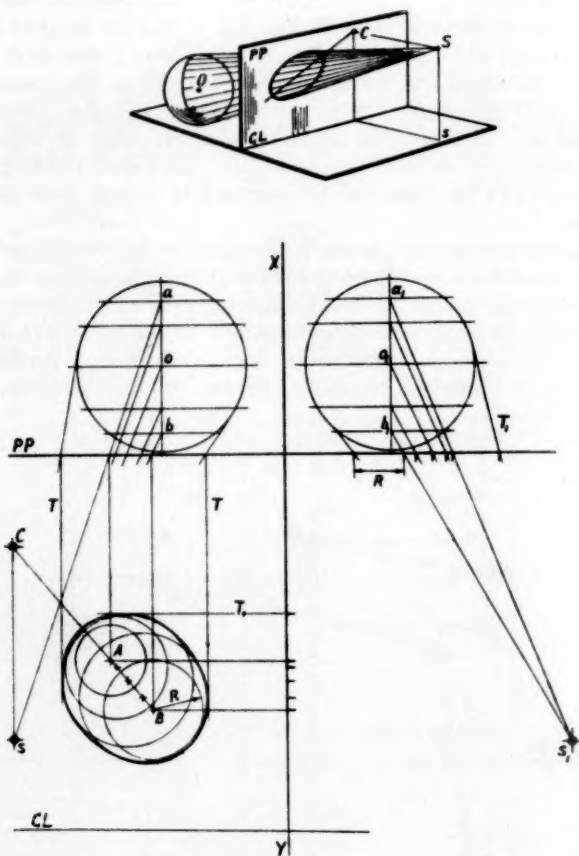


FIGURE 3

Then all the horizontal lines in the plane $abdc$ will converge towards V_1 and all the horizontal lines in the planes $ijhg$ (for example) will converge towards V_2 , the vanishing points being on the horizontal line at a height above the ground line corresponding to $S_1 S_0$.

It will be noted that, provided the lines in the object are straight, all these perspective lines will also be straight.

I now wish to call attention to some anomalies arising from this currently accepted construction.

Firstly, the geometrical perspective of a sphere is, in all but one position, not a circle, but an ellipse. This is a fact that is either ignored or slurred over by most writers on the subject. As late as 1910 we find Storey telling his students

that a sphere should always be depicted as a circle, wherever it is situated. But Abbott has pointed out the correct construction (Figure 3).

Then we have the fact that a row of pillars if aligned at, or nearly parallel to, the picture plane, would in perspective be thicker, not thinner, as they reach farther from the centre of vision. The same kind of distortion is noticeable in the squares off-centre in a tiled floor. If circular pillars were arranged to stand in alternate squares in the front of the view, these columns to right and left would appear to be larger than those away from the observer. Any modification to their diameters would also involve a correction to the squares. Abbott says that the best solution is the adoption of a much smaller angle of vision; and it is a fact that writers on perspective advocate two precautions in setting out a picture: (i) the angle of vision should not be more than sixty degrees, and (ii) the viewing distance should be sufficiently great. If the selected distance from the observer to the picture plane is too small, the perspective becomes distorted (Figure 4). Such a drawing if held at four inches from the eye gives a wonderfully stereoscopic effect; but, of course, no picture wants to be viewed from such a distance. In fact, an artist, in assessing the effect of his labours, frequently stands back from his easel; he may even examine it in a mirror, to get a more detached view-point. And a picture when hung on a wall should appear 'right' without selecting any particular point from which to see it.

Now the restriction of the angle of vision is an important rule, and in fact all reputable artists will probably agree that to obtain a satisfactory composition they would employ a smaller angle than sixty degrees. They would not indeed try to compass it in any mathematical terms. Their picture would have a centre of interest, and only that around it which would conveniently and comfortably come within their sight without distracting attention from the general design, which would be centred on their point of interest. The pictorial artist only needs a knowledge of perspective to *help* him in his drawing. It may serve as

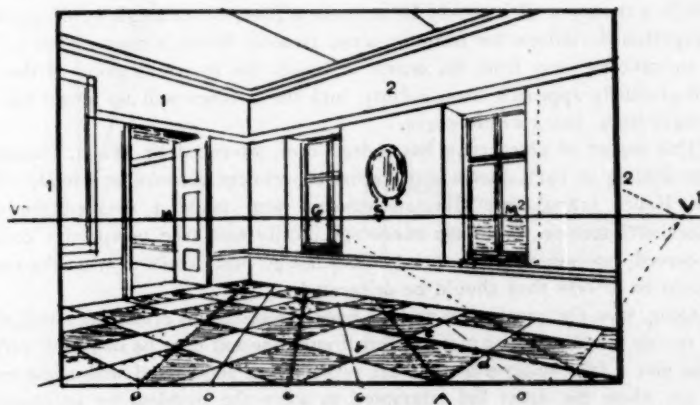


FIGURE 4

a kind of short cut or guide; it is not strictly necessary to him if he can draw accurately just what he sees. Such an artist will, in fact, by instinct of design, obtain a more accurate delineation of his subject than would be got by a strict adherence to the rules of geometrical perspective. The position is analogous in some respects to that of a violinist, or a group of singers, who achieve by instinct a truer harmony than can be obtained by the tempered scale of a piano or organ.

But just as the differences between the 'true' harmonic intervals of violin or voice and those of a piano or organ can be expressed mathematically, it should be possible to find an expressible difference between the results given by plane geometrical perspective, and those achieved by the instinctive artist.

Again, the restriction to an angle of vision of, say, sixty degrees is an artificial limit, introduced so that the resultant distortions, sometimes given the name 'anamorphosis', do not become too obvious. But this is clearly a makeshift proceeding. The distortions will be there, though small, everywhere except in the immediate vicinity of the centre of vision.

Consider the problem of drawing a horizontal wall which lies parallel to the picture plane. By the rules of geometrical perspective both the bottom and the top of the wall should be horizontal lines. The vanishing point is at infinity. But as soon as you look away from the centre of vision, the angle that the wall makes with the line of sight is no longer a right angle, and a vanishing point at something less than infinity appears. It is no use saying you must continue to look at the centre of vision. The artist simply cannot concentrate *all* interest at one point. There is certain to be something interesting occurring to one side or the other which will necessitate close observation of that displaced object. If the displaced object is truly drawn, it will be too wide, and the horizontal wall behind it will not slope to a vanishing point, though to the instinctive artist it will appear to do so. In a properly designed picture the slope may be so small as to be practically negligible, but to the geometrician it should not be. If there is to be a theory at all it should be accurate at base, even though we allow certain recognized deviations for common-sense reasons. What it amounts to is, that as we proceed away from the centre of vision, the vanishing point of the wall will gradually approach from infinity, and the outlines will no longer be true straight lines, but a subtle curve.

This aspect of perspective has indeed been advanced by W. H. Goodyear, who writing in 1912 quotes and discusses pertinent theories by Hoffer (1838) and Hauck (1879) two German scholars who made a detailed study of Greek architecture. Goodyear states specifically that true perspective consists of curved, not straight lines, but he does not go into details of what the curves should be or how they should be delineated.

Again, take the question of vertical lines. According to present practice, these all remain vertical in our picture. But if anything tall is to be depicted, vertical lines give a false impression. We are probably all acquainted with some works of art where the artist has attempted to solve the problem by an empirical inclination of vertical features. The solution is admittedly difficult, because

and H the height of a wall which in perspective will be h at point c . As the line of sight moves to the right along the wall, its projection on the spherical surface indicated will decrease in height. If the radius of the sphere be chosen sufficiently large, as it should be when considering the distance from which the picture is normally to be viewed, the decrease will be inappreciable to the casual observer, but nevertheless it will be there. The height of the wall will not remain h , but will

become $Z = \frac{hY}{\sqrt{x^2 + Y^2}}$ where Y is the radius of the imaginary sphere and x is the distance of the projected point on the drawing from the centre of vision.

The required correction may, of course, be obtained directly on the drawing board by transferring the measured height Z to the position where h would be (modified by the lateral correction as below). But for the *entasis* of columns, it is simpler to calculate the required dimensions.

A similar treatment can be applied to vertical objects, such as pillars, but a judicious rearrangement is necessary when dealing, for example, with vertical walls near the side of the angle of vision.

It is to be noted that, using this construction, the width of pillars in a row parallel to the picture plane would now decrease instead of increasing, as they neared the margin of vision. The construction requires a correction to all horizontal measurements from the centre of vision by a factor of $\theta/\tan\theta$, where θ , the semi-angle of vision, is measured in radians. For the purpose of this subtle correction it is permissible to adopt an artificial viewing distance of any desired length, and of course the greater this length, the more closely do θ and $\tan\theta$ approach in value.

Again, this correction can be applied direct on the drawing board by projecting the required point on the sphere on to the picture plane, through a cycloidal curve whose generating radius is the observer's distance Y . For such small-scale drawings it is sufficiently accurate to use normal projection from the observed spherical points.

Now, how does all this affect architecture? Some years ago, Mr. J. W. Dunn propounded the philosophic conception of the Serial Universe. The basis of this is that no picture is really complete without the artist who draws it. He portrays a drawing with the artist sitting in front of his easel. The drawing on the easel then also holds the same picture, of course, on a reduced scale, including the artist. The drawing in this further picture is the same, and so on to infinity.

I think it was some such concept as this that the Greeks had in mind, in their most highly developed architectural period. They recognized certain optical illusions produced by buildings and columns which are perfectly straight, and they introduced *entasis* of the columns, to counteract this. But in so doing they had something else in mind.

The object of these old Greek architects was to create a building sublime enough for a house of God. A column reaches up to heaven. A row of columns with entablature above points to infinity. There is little doubt that Ictinus understood the principles of perspective, and what more natural than that he should impart an imperceptible emphasis to his solid outlines to give them

a soaring quality by stating, very subtly, and in a sense in serial form, the perspective effect twice over—once on the drawing board, and again in the building.

Thiersche, also quoted by Goodyear, advances reasons why an optical illusion renders it necessary to emphasize a perspective effect by exaggerating, for example, the forward diminution of columns.

That perspective was what the Greeks had in mind is supported by two other features. The first is the contraction of the angle intervals of the peristyles, occasioned no doubt partly by the difficulty with the triglyph frieze (Figure 6), but at the same time giving to the end of the colonnade a sense of stability and rest, and by *emphasizing the perspective effect* of narrowing the more distant intervals, thus seeming to increase the length of the colonnade. The perspective illusion is repeated in the triglyph frieze on the Parthenon, though only on the façade.



FIGURE 6 *Theseion, Athens*

The second supporting feature is the inclination of lines or planes which are supposedly vertical. Not satisfied with emphasizing the height of columns by *entasis*, they produced an additional effect of upward tapering (and hence, says Dinsmoor, of greater stability) by the inclination of the column axes, a refinement also described by Vitruvius. In the Parthenon the inward inclination of the columns on both flanks is such that they would meet if prolonged in a line more than $1\frac{1}{2}$ miles above the pavement; which indicates the subtlety of the design. There is no desire to strike the eye with abnormality, in fact, the beauty of all these refinements lies in the fact that they produce their effect without the observer being conscious of anything other than a marvellously contrived sublimity.

In some cases it is true the inclinations are greater. They were experimenting at the time, seeking not originality, but perfection. In the Propylæa for example, the axes of the flank columns would meet $\frac{3}{8}$ mile above the stylobate. Even this is evidently not intended to hit you in the eye.

The inclination of some door and window joints, resulting in the upward diminution of such openings, was rather more obvious and may have been intended more to give a suggestion of strength and stability than to have any perspective basis. Nevertheless if such a construction—possibly derived from an Egyptian source—was employed in archaic buildings (cf. the so-called tomb of Agamemnon at Mycenæ) it may well have suggested to the architects of the classical age, this subtle perfection of design for perspective purposes.

The architecture of to-day is obsessed by its materials. I have heard it said that the progressive architect must adapt his designs to the materials that are available. In my humble and uninstructed opinion, the really great architect, knowing how to handle these materials, will adapt them to his designs.

It is also obsessed by the straight line, the ruler, the spirit level, and the plumb bob. I once knew an old builder who said he would never employ a stonemason who had to use a spirit level or plumb bob. If he could not tell if his work was right by eye, he was of no use to him. Getting it right by eye, of course, allows for the instinctive correction of these optical defects which we have come to accept as inevitable in our rigid rectangular designs, much as the law accepts the faulty intervals necessitated by the tuning of a piano or organ, and which in its turn has brought about the banning of consecutive fifths in the 'laws' of harmony. It is true that modern harmonists are dragging consecutive fifths back into use by force—but that is another story. We have sometimes in the past tried to follow in the footsteps of the Greeks, without really understanding their intentions. We have exaggerated *entasis* and we have made drainpipe columns which commit all the errors that the Greeks strove so hard to correct. Our modern rectangular blocks of flats, with windows the same size all the way up, may typify the soulless uniformity of the Welfare State, where everybody must be given a fair deal, but if you look at them critically, with the eye of the craftsmen of 440 B.C., I think you will observe the optical illusion of concavity mentioned by Dinsmoor.

There is more than one way of remedying this defect. For our large steel-framed buildings it is obviously asking too much of the contractor to go it by eye. But we can, in part, replace the ruler, or straight edge, in our designs, by

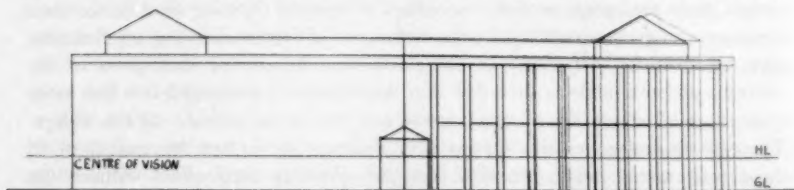


FIGURE 7

Y = 1,660 feet; one inch represents 32 feet

a curve of the subtlest nature, based not entirely on individual taste, but on a logical formula, in which the architects' individual taste is employed in choosing the most satisfactory constants. I would like, in conclusion, to show you two drawings which have very kindly been prepared for me by Mr. Malcolm Higgs.

Figure 7 shows the front elevation of a building, drawn on spherical perspective principles. The centre of vision is on the horizon line at the left side of the building, and owing to spherical correction, a gradual diminution both in height and in extension occurs towards the right-hand side. The viewing distance has been chosen to give a semi-angle of vision over the length of the building of 15 degrees. The diminution is slight and would probably be inappreciable were it not for the rectilinear elevation shown in light lines behind it.

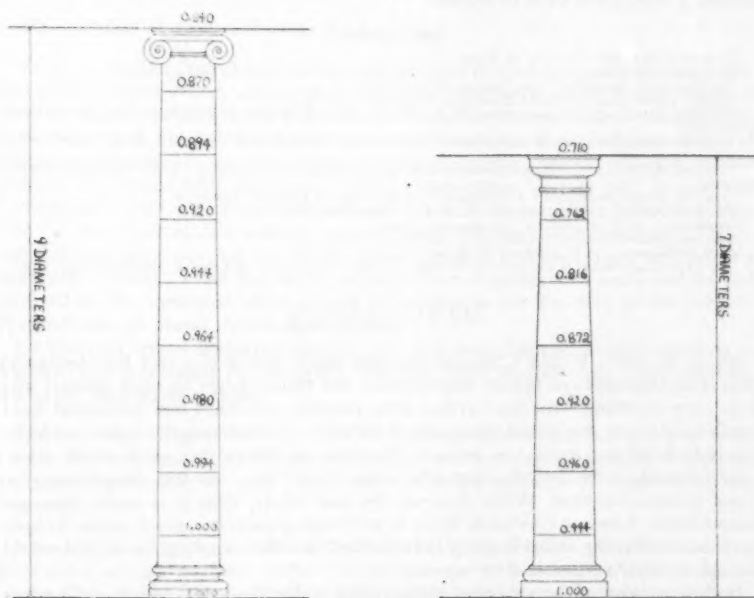


FIGURE 8

Ionic order. Height 18 feet; Y, 28 feet

Tuscan order. Height 14 feet; Y, 14 feet

Figure 8 shows two columns also designed on spherical perspective principles. The left-hand column was drawn with a constant Y twice the value of that for the right-hand column. The point of origin in both cases is at the foot. Such a design would be suitable for columns situated above eye level, as for instance on the first floor of buildings. At a lower level it might be advantageous to have the point of origin one or two units above the base. This would have the effect both of giving a slight diminution in width at the base, and also of permitting higher columns to be designed without exceeding a

reasonable pseudo-angle of vision. It will be noted that in designing columns the selected constant Y should be small in comparison with a satisfactory viewing distance for a perspective drawing of a whole building. It is an arbitrary figure chosen by the designer to suit his requirements, but its limitation is a natural consequence of the fact that entasis is only really of importance to the near view.

I do not claim the privileges attached to an architectural training, and must once more beg the indulgence of those more fortunately placed, to whom much of what I have been saying cannot be new. But if, in introducing specific formulæ which will give a logical guide to the best dimensions, not only for *entasis*, but for those subtle curves that grace the Parthenon and other masterpieces of the best period, I have in any way clarified or stimulated one aspect of the art of design, I shall have little to regret.

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DISCUSSION

MR. R. M. KAY: Would Brigadier Macnair agree that it is a fact that isometric projection represents in fact an impossibility and should never be used, since if one is to view anything with the vertical lines parallel to vertical and horizontal lines parallel and so on, one would have to be at 'infinity', in which case the object would be infinitely small and could not be seen; that you see things that never really exist? I have trouble with draughtsmen who draw things that way and cannot imagine a real perspective view. When they see the real object, after it is made, they are disappointed. I have to persuade them to try to do perspective much more, to help to visualize what the object is going to look like. I use that as an argument, and would like the lecturer's support if he agrees.

Is this question of the spherical picture plane really due to the fact that the retina of the eye on which we are focusing is spherical? I am thinking here of cameras. We do not know to-day if the photographs of these buildings were taken with a camera having a rising front, or just were 'straight' pictures, in which case one must allow for verticals not looking parallel. If we agree to accept the above suggestion we should photograph on to a spherical background.

THE LECTURER: I quite agree that isometric projection cannot under any circumstances give you a view of what the building is meant to look like, and I take it that that is what you meant. Of course, you cannot say that an isometric projection cannot be made—it is done every day in engineering practice, but I do not think it is a suitable method of depicting an architectural drawing at all.

I do not think that the retina of the eye has anything to do with it, because the eye is so small compared with the picture that you are going to view that it represents one point in the Euclidian sense. If you are taking a photograph, either for cinematograph

or any other purpose, if your slide and screen are straight you will normally get plain geometrical perspective, but if you do it on one of these new techniques like Cinerama, I think you would get something very much nearer to spherical perspective.

MR. SERGEI KADLEIGH: I have listened with enormous pleasure to Brigadier Macnair's paper, and the point that interested me most is that here is an example of the tremendous pains, great knowledge and technical precision that went into perfecting something, perfecting a building to be exactly as the architect wished it to appear. That presupposes that the architect wished it to appear like that for a very exact reason. You cannot go to such lengths without very considerable meaning behind what you are doing; there, I think, we come very much at variance with prevailing conditions to-day. We may be able to build to that degree of precision, but we lack sufficient conviction about the appearance of a building to warrant it. That is our loss.

THE LECTURER: I agree with every word you say.

MR. L. J. GRIFFIN: I am always rather surprised that in most books and short articles dealing with perspective, and even in Brigadier Macnair's paper to-day, there is never a mention made of the fact that it is not possible to have vertical parallel lines in perspective. I am an industrial designer and have been through this question of spherical perspective in great detail, but I would never draw the ends of a desk upright because they would look ridiculous. I would slope them inwards and downwards. I would have failed my earlier examinations if I had not known of the lower vanishing point or the upper vanishing point, but the main exercise of examinations, I think, was that they gave you this sort of question—'imagine looking from a tall building down into a street'. I feel that all these projections of perspective are based on and confined to the horizontal plane instead of looking in the direction of the subject, in which case all planes vanish dimensionally.

I know it is only a geometric method, but I do feel that not enough attention is drawn to that very simple way of getting over half these troubles such as in isometric and other inadequate systems.

THE LECTURER: I agree with you, but my impression was that that was just what I said: that in point of fact no perspective line can possibly be straight. Goodyear has already pointed it out, and I have tried to define the way in which it should be curved.

MR. GRIFFIN: My main point is that though it is spherical perspective, I feel there is not enough emphasis on the vanishing of conventionalized straight verticals. If you view a taller factory chimney from a high building, the impression is cigar-shaped as a result of upward and downward converging. Such emphasis would do a lot to correct the unimaginative developments of drawings such as my colleague suggested regarding draughtsmen who just do not understand and must view everything from a plan.

THE LECTURER: I am sorry I have not emphasized it sufficiently, and I hope that what you have said will have brought it out and made it more obvious. I am very glad you have mentioned it again.

COMTE DE LA VATINE: I am rather interested in one point which, as an artist, has struck me, namely that the vertical line which one is actually looking at at any given moment is straight, and that all other verticals which are seen out of the corner of the eye are curved. If I remember rightly, it was either Monet or Manet who painted a scene from a restaurant where the centre vertical line, the one in the centre of the picture,

was actually vertical, whereas the ones at the side were curved inwards above the horizon line, and pillars converged downwards below the horizon line.

Is the artist right to consider the upright he is looking at as being straight, and representing it as straight, in view of the lecturer's statement that there are no straight lines in perspective?

THE LECTURER: It is a very difficult problem. The vertical through the centre of vision is of course straight; but parallel verticals near the centre of vision, though their deviation from verticality should be so slight as to be inappreciable, would I think all have a slight curve. It is difficult, and the artist has got to use a considerable amount of discretion in deciding how much curvature he should give them and where. I have seen pictures just as you have where the artist has obviously been bothered by that perspective. He wanted to draw a very tall picture and he did not really know what to do with the vertical lines, particularly at the side. They should undoubtedly curve a bit, but it is no use putting in curvatures if they are going to look silly. The useful limit is that most artists do not go very high when drawing pictures, and that keeps it in bounds; otherwise it is a subjective problem.

THE CHAIRMAN: The line at the vertical point of vision is in fact bending away from you, and therefore even if drawn straight it will in fact still be bending away from you; therefore there will be foreshortenings and if you have a metrical series up it, it will be contracting at top and bottom.

COMTE DE LA VATINE: If you look round, and in particular take one of those uprights, it appears curved if you glimpse it out of the corner of your eye, without actually looking at it.

THE LECTURER: It will also be very slightly growing smaller at the top.

THE CHAIRMAN: I should like to thank Brigadier Macnair, both on your behalf and my own, for this very brilliant survey of the problem. I think, moreover, that what he has said can be carried outside this lecture room, because, although actually rare, there are examples of these kinds of things happening even to-day. There is for instance a very ordinary-looking block of steel and concrete flats outside the Imperial Institute at the end of Imperial Institute Road. It is all curves in its façade and is not, in fact, the rectangular block of flats that it might at first appear. Similarly although, as a problem discussed with this clarity, very little has been done on it, there are contemporary artists who are feeling their way towards these things by using their eyes. To mention one particular artist, there is the work of Mr. Ivon Hitchens. It has on occasion a slightly goldfish-bowl look about it; he told me personally that he had always used ordinary perspective until at one point he looked for a prolonged period very closely at a building and finally decided that it was not true to what he was actually seeing.

And so there is this pressure, not only on the theoretical side, but in terms of practical working artists: people who, as we have seen this afternoon, in several cases, are not satisfied with existing conventions, and therefore I think that Brigadier Macnair's talk is not only valuable as giving us food for thought, but may perhaps make our walks round the galleries and the streets a little bit more interesting, and our ways of looking at things a little bit more subtle.

A vote of thanks to the Lecturer was carried with acclamation; and, another having been accorded to the Chairman, the meeting then ended.

THE BRITISH COUNCIL AND THE COMMONWEALTH

A paper by

RICHARD SEYMOUR, C.B.E.,

*Controller, Commonwealth Division, British Council,
read to the Commonwealth Section of the Society
at 5.15 p.m. on Tuesday, 16th April, 1957, with
The Right Honble. The Earl of Perth, Minister of
State, Colonial Office, in the Chair*

THE CHAIRMAN: We all look forward very much to hearing Mr. Seymour. I for one am particularly looking forward to it, because I know that I am going to learn a lot which I do not know, being very new to this role in the Colonial Office; so I shall be taking notes. Now, Mr. Seymour, I look forward to your telling us about the British Commonwealth and the British Council.

The following paper was then read:

THE PAPER

In most parts of the world the name 'British Council' has become familiar from twenty years of usage, but it is as finely unexplanatory as Whigs and Tories or Democrats and Republicans. The Council is certainly British, but in these days would be more accurately described as 'United Kingdom', and it is certainly not, in the normal sense of the word, a Council. However, that is the name by which the institution is known and we must leave it at that and not grumble. There are advantages in a name that infers nothing but what custom has attached.

The British Council, then, was incorporated by Charter for the purpose of promoting a wider knowledge of the United Kingdom and the English language abroad and developing closer cultural relations between the United Kingdom and other countries for the purpose of benefiting the British Commonwealth of Nations. You observe the uncomfortable word 'cultural' tucked in. Through international usage this expression 'cultural relations' has come to include, roughly speaking, relations between people in one country and people in other countries, of almost any kind except the military, the political or the economic.

Now if you are speaking of an ancient, famous and highly civilized country, still in the van of scientific and technological progress, with a language in common use almost everywhere, these relations cover an immense number of subjects and geographically are very widely distributed. The subjects with which the British Council is most concerned are thus simply those where the rest of the world has the greatest interest in the past and present achievement of the inhabitants of the United Kingdom. Thus 98 per cent of our expenditure falls

under the broad heads of Education, the Sciences (pure and applied) and Professions, and English language and literature.

We are not engaged in trying to convert the world to the 'British way of life' (whatever that may be), nor are we engaged in the 'projection of Britain', whatever that may mean. We are not at all concerned to demonstrate Morris dancing to the Indians (for the Indians are not greatly interested in Morris dancing), nor in teaching Shakespeare to the people of Ghana, for they learn Shakespeare at school. But we are engaged in advising oversea governments on modern methods of teaching English, and outside the Commonwealth we teach it direct to many thousands of people. We are employed in enabling people to learn about current developments and British practice, in the subjects in which they are most interested: medicine, public administration, local government, engineering, and so on.

Mostly we do this by bringing them here, or more often by arranging their programmes for them when they have got here: or by sending experts to them: or through libraries of English books and periodicals: or through schools of an English type: or just by answering questions asked by correspondents and callers. These things cannot nowadays be done through private initiative only and most other countries, with the resources, have some organization corresponding to the British Council. Some have had such organizations much longer: some spend far more money on it. And it is generally recognized that this kind of work, besides encouraging understanding of the causes behind the policies of a country and the thought processes of the people of the country, indirectly brings profit to any nation that lives by its overseas trade.

The British Council gets its money from Treasury grants, earnings, and payments made to it by international organizations, oversea governments, and foundations for work done at their request. Last year the total current net income of the Council from United Kingdom Government grants was £2,800,000. Of this roughly one-third was spent on work relating to the Commonwealth, including the present Colonies: the remaining two-thirds on the rest of the world.

Apart from the quill-drivers of London, of whom I am one, the Council has on the one hand offices and centres overseas, in 22 Colonies and five independent Commonwealth countries: and on the other, in what is called 'Home Division', a substantial organization in the United Kingdom with branches in all or most university towns including, for example, Cardiff, Glasgow, Liverpool, Manchester and Leeds, as well as several hostels for Colonial students and those from Ghana, a students' welfare department, and so on.

Last year in the United Kingdom we made programme arrangements for 928 individual Commonwealth and Colonial visitors and students, of whom 388 were financed by the United Nations or the Colombo Plan. On their arrival in this country, on board their ships or at their airports, we met 4,775 Commonwealth students, all but 120 from Colonial territories. We saw that they and their baggage reached their destinations and we found them immediate accommodation. For 2,166 of them we arranged permanent accommodation in lodgings with some of the 6,841 landladies whom we recommend; 2,478 of the

Commonwealth student population actually belong to Home Division centres, out of a total overseas membership of 4,679, and a large proportion attend vacation and weekend courses, have study visits arranged for them and accept private hospitality offered to them through the Council.

These are the statistical bones. Let me try to put some flesh on some of them. Let us take the Colonies first. The original conception of the Council had been of an institution concerned with foreign countries. By 1940 the late Lord Lloyd, its Chairman, was pressing the Government to allow its extension to the Colonies. By then we were working in Malta and Cyprus, and towards the end of 1940 we sent Mr. Hugh Ruttledge, the Everest climber, to the West Indies on the first visit to assess the prospects of work in Colonies outside the Mediterranean area. What was the point? Let me quote Sir Charles Jeffries of the Colonial Office before the Select Committee on Estimates in 1947:

May I begin by trying to suggest the objective that we see for the Council in the Colonies, which I would define as 'to assist in creating closer ties between the Colonial peoples and the United Kingdom by encouraging cultural development in the Colonies along lines that will lead to a better understanding and appreciation of British cultural achievement'. We feel that in the present political position of the Colonies, as the conception of domination and subordination is giving place to the conception of a partnership of free peoples, this particular kind of development is of increasing importance every day; and to put it very bluntly, we want the Colonial peoples, which are going to become nations anyway, to be our friends when they do become nations, and we feel that in the British Council we have an instrument which might almost have been designed by providence to assist us in this object. I am not suggesting that it is a perfect instrument in any way at all, but the underlying conception of the Council is, in our view, an extremely valuable one.

And so we have come by degrees to our maximum number of 22 Colonial territories where the British Council is represented.

That this kind of approach to Colonial territories is greatly appreciated there is not much doubt and most of the prominent Colonial leaders have expressed their warm approval. That we have received quite voluntarily substantial contributions towards the cost of new Council centres is further evidence; while one cannot go far in any colony without meeting someone who greatly appreciates the help given him in this country—often contrasting it with the state of affairs previously. And the Northern Nigerian Parliament have recently very kindly resolved:

That this House do register its appreciation for the services rendered by the British Council towards the enlightenment of the people of this country.

What has the Council done in Colonial territories? It is a fatal error to generalize about 'the Colonies', for Malta and Nigeria and Tanganyika and Hong Kong are as different as any countries could be. It is possible, however, to distinguish a general pattern. There are the major tasks, mainly for the benefit of the territory, which the Council has undertaken, because it happens to be technically fitted to do so: such as the establishment of the Jamaican and Gold Coast Public Library Boards and the Eastern Caribbean Library Service: all of which have

been duly handed over (many years ago in Ghana) to the local authorities. One has only to visit Colonial public libraries with their branches and mobile services, and to see the number of adults and children using them, to realize that these were projects vital to the intellectual development of the territories. In some of the smaller we still provide the principal local library, as in Sierra Leone and the Gambia. In Malaya, about to reach Commonwealth status, we have recently been asked by Malayan ministers to run an experimental mobile library: the same kind of thing is done in various other places through travelling 'book box schemes'. In Western Nigeria the Government has recently very kindly provided an extension to our library premises in Ibadan; in Eastern Nigeria our representative is an active member of the regional Library Board. And so on.

Then there has been the formation of local cultural organizations, dramatic societies, orchestras, choirs, art societies, and the like: leading to their combination in federations and guilds with consequent festivals, like the Trinidad Music and Drama Festival which has some thousands of participants from Trinidad itself and other Caribbean territories. Even so small a place as British Honduras, 80,000 people on the Central American coast, has a festival, in which in one way or another, the events continue for half the year. All this, I think, is part of the development of civilized communities. It also means regular co-operation, where co-operation between races, communities and cliques is essential to successful self-government, but is not always in the local tradition.

Thirdly, there are activities that are best, though not very well, described as adult education. This may also involve the creation of groups, like the Singapore Study Group Movement. Or, quite differently, the 22 British Council groups in Nigeria, which in effect are African-run branches of the Council, with their own officers, members, subscriptions and programmes. Or it may mean the kind of talks and short courses conducted in British Guiana on such subjects as local government, parliamentary institutions or co-operatives and addressed to the inhabitants of East Indian villages or workers on the sugar estates or in the Bauxite industry. This work is often undertaken in co-operation with the local adult education organizations: especially so in the West Indies where the extra-mural department of the university has been developed with such success and despite such geographical obstacles, by Mr. Philip Sherlock, one of the Council's oldest, as well as one of its most talented, friends.

Those are perhaps the main threads in a loose pattern. Now, many Colonies contain a considerable number of different races, and different national and religious communities. Since it is only by close, and sometimes unfamiliar and unwelcome, co-operation between them, that a viable national unit can be created, the Council has done its utmost to encourage inter-racial and inter-community co-operation in all these activities: sometimes with a good measure of success and sometimes less so.

One difference between Colonial and foreign work is that the Council is far more closely integrated with the life of a Colonial community. This is partly just because it is not a foreign community, and partly because our duties have been so closely connected with its needs. Thus we find that the Council centre

is very often a genuine local centre: as we find it in Malta, where there is a tradition going back to the work of the British Institute throughout the siege, and as we find it in Sierra Leone, where all kinds of local activities go on in our building, which is in fact *ad interim*, the cultural centre of Freetown.

What happens then to the British Council when the Colony proceeds to independence? Immediately, we hope, nothing much, but on a long view, quite a lot. We hope, and indeed we believe, that because the Council has become an accepted part of the community, because our relations with the territory have been so friendly, and because in our small way we have aided the development of the nation, we shall be not unwelcome in the new conditions, when our responsibilities will have become considerably greater.

In some respects they will have become less, since we shall not be concerned directly with the cultural development of the community. The Colonial peoples have the latch-key and they will have to open the doors. On the other hand, the Council has needed to do nothing about some subjects which provide its principal activities in many foreign countries. Hitherto the English language has been the responsibility of a British colonial administration. After independence, as personal links with the United Kingdom become somewhat fewer and the standards of spoken English, for example, suffer some natural decline, the Governments of former Colonies may be glad of the advice and services in relation to the English language that we provide for foreign and certain other Commonwealth Governments. And there are many other subjects, within the Council's terms of reference, besides the English language, where personal links with the United Kingdom will gradually become fewer and where the responsibilities of the Council as a permanent United Kingdom link will become more substantial. Perhaps the training of administrators is one. Medicine and medical research, where the rest of the world shows the greatest interest in British developments, may be another.

There may come a time when, if the British point of view is to be put, the Council will have to see that it is put. I recently asked the Principal of a Colonial University College whether, if he were given the money, he could not arrange the visits of lecturers from the United Kingdom without the intervention of the Council, since they were now arranged in such close co-operation between the University and the Council. He replied that he did not think so. The Council looked at the matter from the United Kingdom point of view. The University looked at it from the University point of view. The Council aimed to exhibit United Kingdom standards and the University did not. It was valuable, he thought, for the United Kingdom view to be put, but it was not the University's business to do it; indeed, it was the University's business not to do it. Supplementarily you must realize that other nations also have their point of view and are happy to recommend their experts. It is a competitive world, and, without the Council, our point of view may go by default: as it often did in foreign countries before the war. All this is one reason why the Council's work in the new Commonwealth States will become more important as time marches on.

Let us turn to the member States of the Commonwealth as they were in 1956.

The Council is committed heavily in India and Pakistan, lightly in Australia and Ceylon, and scarcely at all in Canada, South Africa and New Zealand.

We do not need to make apology for being heavily committed in India and Pakistan. India is a great country with problems of a complexity scarcely understood by the British public: problems, however, whose solution is of vital importance to the world. India has innumerable links with the United Kingdom and innumerable interests in it. The Council's four centres and 15 London-appointed staff, which in many countries might be regarded as a heavy concentration, in India can scarcely cope with the great volume of work, larger than they can comfortably manage, but so much less than we ought to be doing. The mere contact work, the answering of enquiries about education in the United Kingdom, about British examinations, about many aspects of British affairs, takes up a great deal of time. The four Council libraries are well used: in particular our latest library in the new headquarters at Delhi, in the building which we were invited to share with the All-India Fine Arts Society. This library is being developed as an up-to-date working collection on current subjects, primarily for use by Central Government officials, university teachers, and so on. But the main part of our work relates to the English language. The future of English in India is a very complicated and has been, and perhaps will again be, a very controversial subject. Now happily the Government of India have asked us to help them in certain matters and we are regularly in close touch with many of the State Governments. There are, of course, any number of aspects to the problem. The Council does not try to teach English to the Indian student, as we teach it in British institutes in Europe and the Middle East. Our resources would make only the slightest impression. We are, however, ready to advise governments and other educational authorities on modern methods of teaching the language, on syllabuses, and on teacher-training, and we give many courses to groups of teachers of English selected by the local education authorities. The Nuffield Foundation have initially financed an English Department in the U.P. Central Pedagogical Institute at Allahabad, where teachers study for a diploma in English teaching. We are administering this scheme on the British side and have seconded a qualified member of our staff. Books and equipment have been provided and scholarships for study here. We hope that other States may establish similar institutions: and in the meantime, discussions are proceeding between the Council, the Government of India and another of the foundations on a larger project. In trying to maintain the language in India in the position where the needs of India at the present time require it to be, all parties have embarked on a very large task. We have ourselves at present four qualified linguistic specialists on the job. That is a very small number, which will need to be increased.

In Pakistan we are equally concerned with the English language, and in general the same methods are followed, though more attention is paid to the improvement of teaching methods in selected schools. There are linguistic specialists in Karachi, Dacca and Rawalpindi, but again too few. It seems probable that the future of English teaching in Pakistan is closely connected with the future of

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language teaching in general. Here, too, our technical advice may be of use. It cannot be denied that much English teaching in India and Pakistan is out of date and by no means as effective as it should be, being based on old-fashioned English methods devised at a time when the teaching of English as a foreign language was nowhere the subject of serious study.

The Americans, you know, also speak English. Mainly through the Rockefeller and Ford Foundations they are doing very valuable work in the educational field, in supporting research and in giving financial and other help to a number of practical projects. We are in close touch with them.

I should not pass from the sub-continent without noting that we devote much attention to professional visitors to the United Kingdom and students here: to headmasters, headmistresses and other teachers, and to educational administrators, besides the greater number of doctors, nurses, agricultural, social and industrial experts who come here through the United Nations and the Colombo Plan.

The English language is, of course, a main Commonwealth link; generally, we can all understand one another and when travelling abroad we can all take advantage of the fact that English is a world language. We can read the scientific literature of the world and be understood at international conferences. The maintenance of standards of spoken English, so that we can all go on understanding one another, is a problem of its own, for a flexible and lively tongue seems to break itself down very easily into regional variants, through differences of intonation, accent or idiom, which impede its use as an international means of communication, though not as a domestic one. (I have seen a production of *The Taming of the Shrew* in Sierra Leone of which I could understand not much, but the rest of the audience everything.) The Council's staff are linguistic mechanics and our work in relation to English is a kind of running repair job on what is perhaps the main Commonwealth highway.

I have said nothing of work in Australia, nor of what we might be doing, but are not doing, in Canada, South Africa or New Zealand. I do not subscribe to the view that the Council has no useful part in relations between the United Kingdom and these countries. The closer and more numerous the natural links, the more points of contact there are, where useful services can be performed. The Commonwealth Law Conference of 1955 showed that even in the legal profession closer relations between practitioners could be very useful. The great need, in my opinion, is that this sort of work should be undertaken as a joint operation, and personally I would greatly hope for some initiative from Canada and Australia.

I have given a brief picture of the British Council's work in relation to the Commonwealth. In the last three years I have visited 13 Commonwealth countries and Colonial territories: not unnaturally reaching some conclusions of my own about cultural relations within the Commonwealth, which are not necessarily those of the Council or of Her Majesty's Government in the United Kingdom.

I have been struck by the singular good fortune which has brought the

Commonwealth into being in its present form at the present time. The world has not adjusted itself to the atomic age; nor to the spread of literacy and education; nor to the population problems, or the increase of physical and mental alertness caused by the development of tropical medicine and hygiene. The centres of power are shifting about. The lessons that Western Europe can teach have spread too fast to spread right, and political ideas, such as excessive nationalism, which the West is discarding in the process of evolution, have grown into forbidding heresies. So that the world is full of faction: East against West, colour against white and so on. But the new Commonwealth has not emerged as a force directed against anybody. It includes all colours and all the principal races: Indians, Chinese, Europeans, Africans and Americans, often living together in mixed communities. A Dean of Christ Church used to describe his college as England in microcosm. Just so, the Commonwealth is the world in microcosm. In a way, politically, that is the great importance and unique quality of the organization and it seems to have great power for good in a muddled world. The Commonwealth exists in the form in which it exists by historical chance. Yet its development is the logical outcome of an historical process, in which the peculiar aptitudes of the British people have played a dominant part. Like most British-inspired organizations it is more of an arrangement than a system. It has all the virtues of flexibility and allowing every one to do exactly as he likes. The danger is that it will become so vague as not really to mean anything at all. Those bonds 'light as air but strong as steel' may become so tenuous as not to exist. Like the Cheshire cat, only the smile may remain, for certainly in the Commonwealth the smile would die last.

Now, of course, there are close and important economic ties between the Commonwealth countries, but it is not these that bind them together. It is not even the Crown, since parts of the family, though they esteem the Crown and honour its wearer, yet owe her no allegiance. It is rather a great collection of common interests grown up in the past; most of them, so far, ties with the founder member. They are, in fact, what the Charter of the British Council calls 'cultural relations'. I have been struck by the growing inter-relation of Commonwealth interests, but it is not for the British Council to promote links between West Africa and the West Indies or between Australia and Ceylon or between Canada and the West Indies. Yet what do the Commonwealth Governments do about it? The Council works in close co-operation with them, but there is no joint consultation, bilateral or multi-lateral. And though unilateral machinery, serving similar purposes to the British Council, sometimes exists, it is still embryonic. The Indian Government has no programme for bringing English visitors to India to learn about the country at first hand, like British Council visitors in England. And yet is not India, with its immense and fascinating problems, its mingled strangeness and familiarity, above all the country one cannot get to know without going there? And is it not true that while there are many elderly Englishmen who knew the old India well, there are scarcely any young people who know it at all—while London is full of young Indians?

I know that there are various all-Commonwealth bodies, of which the

Association of Universities of the Commonwealth is perhaps outstanding. There have been Commonwealth gatherings and conferences, from which much might come, like the Commonwealth Law Conference. And there are many foundations and private bodies with wide Commonwealth interests; but how often do they put their heads together? I hope that I may be corrected, but, so far as I know, almost the only scheme providing machinery and finance for the exchange of people between Commonwealth and Colonial countries *inter se*, as well as between the United Kingdom and them, is the British Council's Commonwealth University Interchange Scheme.

So far as bilateral links are concerned, we may hope that the Canada Council, at last established after the Vincent Massey Report of 1951, will perhaps assume some of the functions which the British Council performs here, and in Canada may provide a basis of co-operation not only with the Council but with other Commonwealth bodies. The Indian Council for Cultural Relations has made some good progress since it was set up a few years ago. I myself feel sure that it would be excellent if these examples could be followed elsewhere.

While the cost of an organization like the British Council may be too heavy for a small country like Ghana or West Indies, through the right kind of co-operation and joint action, and provided there are some organizations like the British Council to fall back on, a reasonably satisfactory substitute can be found.

Now in Europe, where most countries are concerned in cultural exchanges, the Council's operations in France or those, for example, of the French in England, used formerly to be veiled in diplomatic secrecy and no one told any one else what they were up to: it would be rash and not in accord with diplomatic tradition. But presently we all came to the conclusion that this was foolish. Most of us adopted the principle of regular joint consultation in bi-national committees and we provided for this in a series of treaties. The larger groups like Western European Union followed the same principle. And really it has all worked very well, with none of the anticipated difficulties and controversies.

I would myself make an earnest plea for the Commonwealth to realize that its power rests on a basis of common understanding and that the cultural link really is at the root of the Commonwealth connection—but that links may rust and understanding die if positive action to prevent it is not taken.

DISCUSSION

THE CHAIRMAN: Before the discussion I should like to say a word about Mr. Seymour. He has been at what is known as 'A' Division of the British Council for the last four years. 'A' Division is the Commonwealth and Colonial Division. You may have heard Mr. Seymour say that he has in the last four years been to 13 different territories, but the number of different territories is not nearly as impressive as when you hear what those territories were. He has been to Gambia, to Sierra Leone, Gold Coast or (now I can say) Ghana, Nigeria, Malta; and then to Jamaica, Trinidad and Barbados, British Guiana and British Honduras, and finally he has been to India, Pakistan and Ceylon. That list makes you realize what a very great and valuable work he has been doing in making personal contacts in so many of these countries, so many parts of the Commonwealth. I know, and I think you all

know too, how important it is to make these personal contacts and what a great temptation it is not to make them, in the sense that once one is here one tends to say, 'Well, I have got so much to do I must stay and be on the spot'. But Mr. Seymour very wisely and very valuably has travelled, and that is worth very much more.

In a way it is rather a sad occasion, because Mr. Seymour is, I understand, going to leave 'A' Division and going to the European Division. I am not sure that that is promotion, I am sure it is in one sense, but I am not sure in another. I know we all wish him very well there. While it is going to be very sad for 'A' Division that he is leaving, on the other hand we have the comfort of knowing that Mr. Phillips, who has been the Deputy, is going to succeed him. That will give great confidence.

We have all listened with the greatest interest and admiration to the immense work that the British Council covers in the Commonwealth, and I was wondering how many people they have either at home or in the various territories overseas, who do all this work? Could you also tell us, Mr. Seymour, whether on the whole the people working in these various areas have come from England, or whether you do a lot of local recruiting for the British Council offices in the various territories?

THE LECTURER: I shall have to endeavour to call on the audience for information on numbers. There are, of course, a great many locally appointed people working for the Council; the number varies according to the part of the world in question. Some of them have been with us now for quite a long time and some of them occupy responsible positions. The London appointed part of the Council, of course, is a service. Can anybody give the number for the Colonies?

A MEMBER OF THE AUDIENCE: 55 for the Colonies and I think 32 for the Commonwealth.

THE LECTURER: It is not very large you see; 55 people in 22 Colonies now Ghana has gone into the other class. They journey about; they stay on an average four years in a country. That is one of the interesting things about them, because, you see, the Council is one of the few British institutions of this sort which covers the whole world, so that you may come to Nigeria from Colombia or Brazil. In fact, that is of itself an interesting thing to happen to the Eastern region of Nigeria, which has possibly had somebody working there who has lived in Colombia or Brazil.

SIR SELWYN SELWYN-CLARKE, K.B.E., C.M.G., M.C. (Chairman, Commonwealth Section Committee): I should like warmly to endorse Mr. Seymour's claim for the appreciation of the work of the British Council overseas. When I was last in India a few years ago, it gave me quite a glow of pride and pleasure to hear the tributes paid to the British Council, particularly from medical colleagues of mine who found the library in Agra, for example, of great service to them. They could not afford to buy expensive medical tomes and apparently the British Council, at that time anyway, catered for them. I should like, also, to pay a warm tribute to the British Council for the success achieved in relation to finding accommodation in this country for students from overseas. Our lecturer mentioned that nearly 7,000 landladies had been persuaded to take overseas students; that means a very great deal when one knows of instances in the past where the door has been shut in the face of the student as many as 17 times before he has been able to find a roof over his head. The name of Miss Parkinson of the British Council is, indeed, a household word in this country!

I was a little surprised, Sir, that the Council was so scarcely committed in the Union of South Africa and I wonder whether it would be possible to extend their field of work in that Dominion.

I like the lecturer's reference to the main work of the Council in respect of English courses being in the nature of 'a running repair'. It calls to mind the criticism launched at me (when I had the privilege of serving with your Excellency's father on the Council in the Gold Coast), prompted by my using grammatical language which

my driver said was 'too strong'! I believe that the earlier residents in Ghana thought that it was best to speak what is called pigeon English. I know that in the First World War the Germans actually produced for their troops in Togoland a phrase book. I can only remember one phrase, but the translation of the German '*das ist gut*' was 'dem be proper ting'. So now we know why the British Council has to do so many 'running repairs', and I fear that we early British residents may be partly responsible. I should like to say how much I enjoyed your address, Mr. Seymour.

THE LECTURER: I think the answer to the South African question is that we would be glad to be represented there if we had the resources.

SIR ANGUS GILLAN, K.B.E., C.M.G.: I should like to thank Mr. Seymour very much indeed for his intensely interesting address and, if I may, to congratulate him on the growth of the work for which he has been responsible in the British Council. I happen to be very much interested myself because some 15 or 16 years ago I was invited to the British Council to help to start up what I called an Empire Division; they may call it 'A' or Commonwealth and Empire or whatever you like, but we all know what it means. I have been most interested, and am happy to hear that baby which I nursed for some time has grown under our lecturer's care. I should very much like to support him in what he said about the support we have always had in the Commonwealth and Empire Division from the Colonial Office. They realized very early what the British Council could do potentially in the betterment of personal relations between this country and the Colonial territories, and the same was true of the old India Office in very difficult conditions. I was in at the start of the work in India and one knows how difficult it was. If I have to be perfectly honest I would say that I regret that the Dominions Office did not always take the same line. We could, I believe, have been in Canada and South Africa by invitation if we had had their support. We did get into Australia and New Zealand and later, in fact, I had two of the happiest years of my life when I was beginning to feel rather browned off at headquarters and swapped jobs and went to Australia as the British Council representative. Later came what I can only call that deplorable decision to cut the British Council out of Australia, New Zealand and Ceylon. I believe the 'sentence of death' on our representatives in Australia and Ceylon was reduced to one of indeterminate 'imprisonment' in the High Commissioners' offices. I have the greatest respect for High Commissioners' offices in their own function, but the British Council cannot work satisfactorily in the eyes of the people as a pendant of a government department. I do hope that the Commonwealth Relations Office will follow the example of the Colonial Office, particularly in regard to colonies as they emerge to Dominion status. We all know very well that constitutional links are loosening every day and something must take their place if we are to maintain solidity. I believe that the links which must be forged in place of the constitutional ones are those of mutual understanding and mutual knowledge, which are really what is meant by that rather horrid jargon term 'public relations'.

MR. M. A. ADEYEMO: I would like to ask Mr. Seymour how far it would be true to say, as alleged in a book on Colonial students (in London), that the approved landladies on the British Council's register belong to a 'special class' as recommended by the Colonial Office, and that this class is unrepresentative of the ordinary people of Britain?

MISS NANCY PARKINSON, C.B.E.: I do not quite understand the question but I can assure the questioner that the 6,000 or so addresses of British families offering lodgings to overseas students which appear on the Council's register of accommodation are representative of all classes and walks of life in this country. These addresses

are not recommended by the Colonial Office, but are regularly inspected and approved by the Council, and are happy to welcome students from overseas.

THE CHAIRMAN: Before I thank Mr. Seymour for his address I want to thank Sir Selwyn Selwyn-Clarke and the Royal Society of Arts for their allowing us to use this splendid room, with the rather distracting pictures, for this afternoon. I think it is rather good to know that as long ago as over 200 years there was a thought that it was important to encourage not only the arts but also manufactures and commerce. As the Royal Society of Arts went on it started very many things, being the first in many, many fields. It showed great prescience and wisdom in deciding that the Commonwealth was something which it should particularly encourage, and be particularly interested in. That, of course, has been the case over many years and our meeting this evening is one more proof of how much we owe to their encouragement and their help on Commonwealth matters.

Now, turning to Mr. Seymour and his lecture, I for one have certainly learnt a very great deal more about the Colonies than I knew when I came here. I am only a new boy anyhow to the Colonial Office, so I very much enjoyed hearing people who are really experts. I think that one of the most striking things that one learns about the activities of the British Council is the amount of money that was spent on the Commonwealth side of the British Council and, what to me was more important still, the sort of work that they do here, unobtrusive but vitally important. I have in mind in particular the fact that they worked out the programme for study for very nearly 1,000 people, in the last year, visiting this country from the Commonwealth and the Colonies. It really is a tremendous achievement and one of very great importance and value. I know that if I happened to be living in one of the Colonies, the knowledge that I could ask the British Council's help in getting out such a programme, and know that they would take all that trouble, would indeed be a great comfort. Very nearly 5,000 students are coming over here, to a strange country which they know well by name, but perhaps without friends. We again learnt that members of the British Council are on the airport or at the dock to meet them, to arrange for their immediate accommodation. Many of you will know how vitally important the first impression and the first reception are. I do think that that is something which is tremendously impressive and valuable. Then too, of course, the arranging and encouraging people on the private hospitality side is so valuable and much needed. It is always rather a puzzle to me, and after listening to Mr. Seymour to-day it is more so, why one of our leading newspapers, which is an Empire newspaper, continually attacks the British Council. I only feel that if one of their number had been here to-night, perhaps there might be some change in their policy and some realization of what an invaluable job the British Council does do in the Empire and in keeping the Commonwealth together and on the right lines.

I was struck by what Sir Angus Gillan said about the Colonial Office and Commonwealth Relations Office. I can only say to him that I will take the opportunity of saying to some of my colleagues in the Commonwealth Relations Office, if they do not know it already (and I suspect they do), what a great thing is the British Council in this work. While I am sure they have in many ways already found it out, as new countries come to their independence so must they take over from us. In the taking over I know how much they are going to be helped by the British Council. It only remains for me to thank Mr. Seymour on, I feel sure, behalf of you all for the time and the paper which he has given to us. It is to me personally, and I am sure to many others, of the greatest interest. We wish him well in his new job, but ask him not to forget his old friends at the same time. Thank you very much Mr. Seymour.

A vote of thanks to the Lecturer was carried with acclamation; and, another having been accorded to the Chairman, the meeting then ended.

GENERAL NOTES

THE THOMAS TELFORD AND OTHER EXHIBITIONS

Invariably the London shows languish in the summer months; but in recent weeks there has come, and but lately gone, a remarkable exhibition commemorating that most remarkable figure, Thomas Telford, which deserves a posthumous tribute in these pages. Devised by Mr. Richard Buckle (who exhilarated London, you remember, with his homage to Diaghilev some years back), the exhibition illustrated the life and work of the great engineer, born just two hundred years ago, who became the first President of the Institution of Civil Engineers, in whose Great George street premises the collection was assembled. What might well have been just a conventional array of pictures, plans, and documents, was made immediately arresting by the display on warm red screens illuminated by electric flambeaux, conducting the eye to the climax of the show at the end of the gallery—Miss Astrid Zydower's statue of the engineer pointing rhetorically to a great romantic canvas in which Mr. Leonard Rosoman had imaginatively incorporated a number of Telford's bridges bestriding their floods and valleys with Roman majesty.

It was Thomas Telford, we are reminded, who built the road from London to Holyhead with the suspension bridge across the Menai Straits, established a network of canals up and down the country, and with his roads and harbours brought prosperity to the Highlands of his native Scotland, which before his coming had barely progressed beyond the primitive. But the exhibition did more than survey his formidable feats; it lifted a veil from the man's life, which was by no means always strenuously dedicated to his creations of stone and iron. Raeburn's portrait of him reveals no more than Raeburn's assurance in the handling of paint, the fleshy mask suggesting, if anything, that Telford was as aloof as historians have portrayed him. In fact, it was the boy nicknamed 'Laughing Tam' who charmed the heart of Miss Pasley of Langholm, and, though the ardent poet-turned-engineer never married, he remained the most sociable of beings with a gift for inspiring the devotion of his collaborators and apprentices.

It is not in the least far-fetched to discern the poet (whose imagination, as a boy, was fired by *Paradise Lost*) working as rhythmically in the heroic construction of the Pont-y-Cysylte aqueduct over the Dee valley, or again in that leaping project—never, alas, realized, though it fascinated George III—of a single 600-foot span for a new London Bridge in iron. Telford, we notice, had many of the ideals of the romantic period, but his airy projects had their foundations firmly based. In the age of Beckford's Fonthill and the Prince Regent's Brighton Pavilion, it is understandable that even the Scottish engineer should now and again have felt tempted to indulge in excesses. For instance, his project for Clifton Suspension Bridge (of which a pleasing water-colour was exhibited) was undeniably a less successful essay in the Gothic style than those at Tewkesbury or Conway, and it was pardonably passed over in favour of Brunel's simpler design. But Telford's immense achievements remain a testimony to his soaring imagination and skill, and to the wealth of his research.

Mention of the Brighton Pavilion reminds me to draw attention to a fascinating exhibition now being held in the Brighton Art Gallery near by in Church Street. Excellently conceived and hung, it illustrates *The Influence of Wales in Painting* from the eighteenth century to the present day. The castles and wild nature of Wales inspired, as we know, Richard Wilson, and after him Turner and many of the English water-colour school, notably David Cox. But not until the more idiosyncratic art of our time does one alight on visions that seem one with the fervour of Welsh poetry and song.

Clearest of all is the influence of his inheritance on Mr. David Jones. It is his other-worldiness—a spirit pervading the Welsh arts and found alike in the imagery of Dylan Thomas and the Celtic drawings of Mr. Augustus John—which gives the water-colours of David Jones their enchantment, his web of line and iridescent films of colour working their wonders here. As intense, in its way, was the vision of J. D. Innes, a native of Llanelli, whose career seems somehow fulfilled though he died of consumption in his twenties. Often associated with his friend John, Innes reveals himself at this time as an even more rapturous painter, taking spiritual possession of his mountains, and adopting the simple forms and palette of the Fauves as early as 1906.

The London private galleries, where for the most part the mixed summer exhibitions prevail, house nothing at the moment quite so enterprising as this collection at Brighton. At the gallery of the Institute of Contemporary Arts in Dover Street, however, Messrs. Victor Pasmore and Richard Hamilton have devised a construction in space which might be thought to integrate, in some sort, architecture, sculpture and painting. At calculated intervals they have suspended 'perspex' screens of grey, white, and red, diversified by gummed strips and circles of pure colour—a labyrinth through which the visitor moves, thus becoming, as it were, involved in 'sculpture', and aware of the extra dimension of space given to flat colour. After the initial surprise, and such satisfaction as is always engendered by an ordered design, there is not very much to detain anyone, save the theoretical purist. But, if for nothing else, it is interesting as another manifestation of the obsession of Mr. Pasmore, at one time the most sensitive painter in the country.

NEVILLE WALLIS

THE UNITED KINGDOM CONTRIBUTION TO THE INTERNATIONAL GEOPHYSICAL YEAR

On 1st July began the great co-operative scientific venture known as The International Geophysical Year, a period of concentrated observation of the earth as a planet by scientists of sixty nations. Those who wish for an authoritative, precise account of the scale and details of what is planned to be *The United Kingdom Contribution to the International Geophysical Year* should consult the book of this title, prepared and published by The Royal Society. Within its declared limits it is likely to prove an indispensable work of reference, for it not only covers the history and organization of the enterprise, but states all the programmes of work to be undertaken in the individual fields of enquiry and observation which together comprise the science of geophysics. This survey is supported by a chapter showing the geographical distribution of the United Kingdom stations. In conclusion there is a description of the setting up of The Royal Society base at Halley Bay, Antarctica. An I.G.Y. calendar, together with maps and tables, and a glossary of technical abbreviations, facilitate quick reference and understanding.

Copies of the book, price 10s., may be obtained from The Secretary, The Royal Society, Burlington House, London, W.1.

BRITISH ASSOCIATION MEETING

Details of a very wide range of activities are announced in the programme for the 119th Annual Meeting of The British Association for the Advancement of Science, which will be held in Dublin from 4th to 11th September, 1957. The President for 1957 is Professor P. M. S. Blackett, F.R.S., Nobel Laureate, Professor of Physics at the Imperial College of Science and Technology, London, the subject of whose presidential address is 'Technology and World Advancement'. The scientific programme this year will have an agricultural slant, which it is hoped will prove of particular interest in Ireland; and a number of major sessions in the programmes of the Sections are to deal with specifically Irish subjects. Arrangements have also been

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made for a number of special exhibitions, the showing of scientific and research films, and excursions to places of historical and local interest.

No scientific qualifications are required for membership of the British Association. Adults may become Associate Members for a fee of two guineas, students and schoolchildren for 10s. Further details of membership, and of the 1957 Annual Meeting, may be obtained from The Secretary, British Association, Burlington House, London, W.1.

CORRESPONDENCE

From MARK BATTEN, P.R.B.S., CHRISTIAN'S RIVER, DALLINGTON, HEATHFIELD, SUSSEX

'STONE SCULPTURE BY DIRECT CARVING'

I write to call your attention to page 722 of the *Journal*, on which appears a review of my book *Stone Sculpture by Direct Carving*, and though with much reluctance and regret to complain about it.

One, of course, expects reasoned criticism to contrast with appreciation in reviews of books. I think many must agree with me that unlike what one is entitled to expect in our *Journal*, the article by Mr. Louis Osman goes beyond the bounds of propriety.

A few examples will illustrate my point. A less prejudiced person would not have ignored the necessarily strictly limited size of a book such as this and demanded an exhaustiveness of treatment which the format would obviously not accommodate. He is most inconsistent. He deplores what he describes as only touching upon subjects without going sufficiently deeply into them and yet elsewhere complains that I have not included subjects which really come outside the scope of the book, such as architectural developments, or jade carving which, as he ought to know, is another technique. When pretending to quote he changes the mood of my verbs and takes parts of statements out of their essential contexts to misrepresent them. He complains that I make categorical statements without supporting arguments while being far more guilty in this respect himself. Mr. Osman demands much information that I can provide but that any fair-minded person would see could not go into the book he was supposed to be reviewing. The whole tone of the article is exaggeratedly condemnatory.

I wonder if you would be kind enough to take some step to ensure that a customarily balanced situation is brought about.

FROM THE JOURNAL OF 1857

VOLUME V. 21st August, 1857

THE SITE OF THE NATIONAL GALLERY

The report of the Royal Commission on the site of the National Gallery has just been published. . . . As regards the proceedings of the commission . . . on the 12th of March a resolution was proposed to the effect that the evidence hitherto adduced, collectively considered, did not lead to any decisive conclusion against placing the new National Gallery within the metropolis; on which Mr. Faraday moved an amendment admitting this fact, but pointing to the advantage to be obtained by 'the removal of the gallery to a clearer and more airy site'; which amendment was negatived by 3 to 2, Mr. Richmond voting with Mr. Faraday. The original resolution was afterwards adopted. At the meeting of the 7th of May, a letter was read from

Mr. Justice Coleridge, advocating the claims of the existing site in Trafalgar Square on the ground of its general accessibility. On the 21st May, Professor Faraday moved two resolutions—first, 'that in respect of the future plan of the National Gallery, the three leading considerations which should govern the choice of the site are clear space for a building of magnitude sufficient to provide for the prospective increase of the collection, accessibility to the public, and the preservation of the pictures; and, secondly, that, in the opinion of the commissioners, the first consideration is essential in any case, that the second and third, although of extreme importance, are highly antagonistic, inasmuch as the removal of the pictures to a clearer but distant place takes away that accessibility which the present site, although, no doubt, with a great amount of wear and tear, provides'. On these two resolutions the commissioners divided, affirming the first by 4 to 1, and the second by 3 to 2. Mr. Richmond then proposed that after a resolution adopted on the 27th of April ('that it is not expedient to break up or remove the collections of ancient sculpture and archaeology in the British Museum'), another resolution be added, to the effect that the future combination of sculpture with painting should be provided for in the new National Gallery, 'a primary use of which should be to preserve examples of the art of past ages in all its branches in the order best adapted to exhibit their beauty and to illustrate their sequence and character'. This resolution was negatived by three to two. It was also unanimously agreed that the choice of sites lay between the site of the present gallery (if sufficiently enlarged) and the estate at Kensington Gore. The result was that the chairman (Lord Broughton), the Dean of St. Paul's, and Mr. Cockerill voted for the present site in Trafalgar Square, and that Mr. Richmond (alone) voted for the Kensington Gore estate. Professor Faraday declined to vote at all, his mind being equally balanced between the two sites.

LIBRARY ADDITIONS

Fellows and Associates are reminded that they may borrow up to five books at a time from the Library and retain them for a month. Members living outside London may borrow books by post. Books sent by post are despatched at the cost of the Society and are returned at the cost of the borrower.

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